OBSERVATIONS

ON

ANEURISM.

BY

ROBERT ALLAN, F. R. S. E.

SURGEON TO THE ROYAL INFIRMARY, AND LECTURER ON SURGERY IN EDINBURGH.

EDINBURGH:
PRINTED BY P. NEILL.

1826.

R35222

OBSERVATIONS ON ANEURISM.

IN A LETTER TO ONE OF THE EDITORS OF THE EDINBURGH JOURNAL OF MEDICAL SCIENCE.

SIR,

THERE is no department of Surgery that has been so fully elucidated as that of the Arteries; and there is no operation in which the powers of the animal economy are more beautifully displayed, than in the operation for aneurism. Within the last thirty years, by the almost exclusive labours of the surgeons of this country, our knowledge of the diseases and accidents of the arterial system has arrived at a degree of perfection unknown in any other branch of our science. In the year 1795, at the time that I was apprentice to my much valued friend Mr John Bell, he published his book on Wounds. In this work, he pointed out the freedom and value of the arterial inosculations round the hip and shoulder joints, and strenuously inculcated a perfect reliance on the power of these inosculations to carry on the circulation, when the main artery was obstructed. His reasonings tended greatly to excite the attention, as well as to settle the minds of surgeons, and unquestionably led directly to the accomplishment of those brilliant operations for aneurism, which constitute the glory of English surgery. The year following Mr Bell's publication, Mr Abernethy tied the external iliac artery; and although his first two cases did not recover, still they proved the power of the collateral arteries to maintain the circulation in the limb, when the main artery was obstructed. In 1806, Mr Abernethy a third time tied the external iliac with success; which operation was in the same year successfully repeated by Mr Freer of Birmingham, and shortly afterwards by Mr Tomlinson, and other surgeons. Every accessible artery

of the human body has now been tied: the anastomosing branches have been found in all circumstances fully adequate to maintain the circulation; and I believe, in the operation for aneurism, that, if we do not separate the artery from its surrounding connections, our success will be equal, whether we use a small ligature or a thick one,—whether we pull the ligature with such a degree of force as to divide the internal coats of the artery, or only so tight as to embrace the vessel, and lay its sides in contact,—whether we use one ligature or two,—whether we cut the artery betwixt the ligatures, or leave the vessel undivided,—and whether we apply the ligature above or below the aneurism, provided, in the latter case, that no important branches are sent off by the sac, or by the artery betwixt it and the ligature, which would prevent the circulation in the tumor being obstructed *.

When it has been found necessary, in an aneurismal limb, to tie the artery at a high point, surgeons have been chiefly afraid of gangrene; but this is a rare occurrence. In truth, the death of the limb is the least of the dangers arising from the operation for aneurism. Few cases of gangrene following the operation have occurred; while the death of patients can be often traced to secondary hemorrhage, or to the irritation induced by the inflammation and suppuration of the sac, and, on some occasions, to less obvious causes.

As practical views of a subject are always useful, I shall give you, somewhat in detail, an account of five cases of aneurism

---

* I have been long impressed with the belief, that the ligature would be equally effectual when applied beyond the tumor, as betwixt it and the heart; and in the second volume of a System of Surgery, published by me in 1821, I remarked, that "if there happens to be no considerable branch coming off from the sac, or from the artery betwixt it and the ligature, *there is little reason to doubt*, that this operation will be as successful as when the artery is tied above the aneurism." The manner in which the cure of aneurism is effected, *first*, by the coagulation of the blood in the sac, and, *secondly*, by the inflammation and closure of the artery, justifies this conclusion; and I may remark, that Mr Wardrop of London has lately cured an aneurism of the carotid artery, as effectually, by placing the ligature beyond the aneurism, as if he had tied the vessel betwixt the tumor and the heart; and this, on many occasions, I am persuaded, will be found to be the safest operation.

which came under my care during the last summer, and for which I tied the femoral, the brachial, and the external iliac arteries; and although some of the patients did not recover, the cases were all successful, with regard to the establishment of the new circulation. Surgeons are in general so vain of their achievements, that, in our journals, we seldom see any thing recorded except successful cases. But, Mr Editor, my days of knight-errantry are over; and I purpose to present you, from time to time, with some accounts of my unsuccessful as well as my successful cases, the former of which may convey perhaps the more instructive lesson of the two. A patient is often led to believe that his surgeon has rescued him from death by a grand operation, while in truth the poor man has been indebted to nature for a fortunate escape.

I am, Sir, your most obedient servant,

Robert Allan.

57. York Place,
Dec. 17. 1825.

CASE I.

POPLITEAL ANEURISM.

James Pringle, aged 39, a cow-feeder, was admitted into the Royal Infirmary, March 10. 1825, with a pulsating tumor in his right ham, of such a size as to fill up the space between the hamstrings, but not projecting beyond them, excepting at the moment of pulsation. Upon the slightest exertion, the pulsation became very strong, and was then very apparent to the eye. The tumor was accompanied with much pain of the whole leg, but particularly of the ham and lower part of the calf. This pain was very severe after continued exercise. The motions of the knee were greatly impaired: when he walked, he kept the limb bent; but, if desired, he could extend it. General health good. Pulse 90.

Three weeks before admission into the Hospital, the disease made its appearance. After a hard day's labour, he had retired to rest, and was awakened in the middle of the night with a violent pain in the ham; but there was no swelling or pulsation at this time apparent. He paid little attention to it till about a fortnight after, when he was again attacked with great pain; and upon applying his hand, he now felt the tumor beating. The swelling and pulsation continued to increase. When he came under my care, the circulation in the limb was so perfect, that pulsation could be felt in the anterior and posterior tibial arteries on the fore part of the foot, and behind the inner ankle.

After confining Pringle for a few days to the horizontal posture, and giving him two doses of sulphate of magnesia, on the 14th of March, by the advice of a consultation, I tied the femoral artery. I commenced my incision about two inches above, and carried it to an inch below the middle of the thigh. This incision I made in a straight line, so as to cross the fibres of the sartorius muscle. When the muscle was exposed, I turned aside its inner edge, and brought the artery into view. By a few scratches of the scalpel, I opened the capsular sheath, about the middle of the external incision, and passed from the inner side a blunt aneurismal needle, armed with a ligature of three threads. The ligature was tied. The edges of the wound were then brought together, and retained by means of adhesive plaster, and a uniting bandage. The limb was wrapped in flannel, and a bottle of hot water was applied to the foot. Half an hour after the operation, the heat of the aneurismal limb, at the ankle, by Fahrenheit's thermometer, was 79°, and that of the sound one 84°. At half-past six in the evening, the patient expressed himself comfortable. The limb felt warm; its heat continued at 79°, while that of the sound limb had risen five degrees since last report.

March 15.—He had slept well from a draught, and had no uneasy sensations: his pulse was 80, and strong; the heat of the aneurismal limb 81°, and that of the sound 85°; but in the evening, the heat of both limbs was 90°. The circulation at this time was a little quickened, and the surface warm and moist.

The tumor in the ham had collapsed considerably. His draught was ordered to be repeated, and an ounce of castor oil to be taken in the morning.

On the 16th it was found that he had passed a good night, and that he did not complain of any pain. No pulsation could be felt in the tumor. The heat of both limbs was 92°, the pulse 88, full and strong, the tongue white; he had some thirst, and there was a slight blush of inflammation round the wound. The castor oil had not operated. Twelve ounces of blood were ordered to be taken from the arm, four ounces of the infusion of senna to be given immediately, and wet cold cloths to be kept constantly applied to the wound. In the evening, the fulness of the pulse was reduced, and the febrile symptoms moderated. The inflammatory blush round the wound had disappeared, and the heat of both limbs was 91½°. No motion in his bowels. A purging glyster was ordered to be immediately administered, and a cup of the infusion of senna, with a little of the sulphate of magnesia, to be taken every three hours, till the bowels were freely opened.

17th, Had slept little during the night, and was restless and uneasy: there was a slight blush of redness above the wound, with some starting in the limb, but no pain; his pulse was 100, full and strong, accompanied with headach, foul tongue, and much thirst, and the temperature of both limbs was 91¼°. Had one copious evacuation during the night. He was ordered a purging enema, from which he had two copious dejections. The dressings were taken off, and the wound was found adhering, except at the point which gave passage to the ligature, and from this about two tea-spoonfuls of pus were squeezed out.

18th, He had slept little during the night, the discharge from the wound was more considerable. His headach was much relieved by a spontaneous discharge of blood from the nose to a small extent. Pulse 96, less full and strong. A cathartic was ordered.

On the 19th, it was found that there had been four copious dejections from his bowels, and that all the febrile symptoms were considerably abated.

On the 20th his pulse was reduced to 80; there was no pain

or inflammation of the wound, and the heat of both limbs was 94°.

From this time there was no febrile aetion; every thing went on well, and the ligature came away on the 29th, the sixteenth day from the operation. He left the hospital on the 1st of April, at which time the tumor was mueh reduced in size, and no pulsation could be felt in it, nor in the anterior or posterior tibial arteries. In a short time he was perfeetly well.

Remarks.—The artery was tied a little above the middle of the thigh; it was separated from its surrounding conneetions to no greater extent than just to allow the ligature to pass. The ligature, eonsisting of three threads, was pulled moderately tight, but not with such force as to divide the inner eoats of the vessel. I saw Pringle five months after his dismissal from the hospital, when I found the tumor in the ham redueed to the size of a filbert. He at that time was employed in breaking stones on the highway, but when he worked long, he complained of uneasiness and weakness in the limb.

CASE II.

BRACHIAL ANEURISM.

Richard Givan, a labourer, aged 19, was admitted into the Royal Infirmary, on Wednesday, April 6. 1825. At the bend of the right arm, near the insertion of the bieeps musele, there was situated a circumscribed pulsating tumor, about the size of an orange. The pulsations were strong, and eorresponded with those of the other arteries. The surfaee of the tumor was inflamed, and gave mueh pain on pressure. There was a general inflammation and swelling of the fore arm, and he eomplained of a numbness in the hand and fingers. Pulsation at the wrist, both in the radial and ulnar arteries, was very distinct. The mark of a wound, which indeed was not quite healed up, was seen near the centre of the tumor, which he said was produced by a lancet. He complained of a sharp pain in his side.

Givan reported, that, on the Sunday preceding his admission, an attempt was made by a young gentleman to perform venesection for the complaint in his side. The blood gushed out with great violence, and was with difficulty restrained, by the application of a firm roller, which was removed next day, when it was found that a small tumor had formed at the point where he was bled, and which rapidly increased in size.

Upon his admission into the hospital, warm saturnine fomentations were applied, on account of the inflamed state of the tumor and fore arm, a brisk cathartic was exhibited, and the limb was ordered to be kept at rest. In the course of a few days the inflammation of the aneurismal tumor had subsided. An attempt was then made to cure it by compression, by means of a cushion and screw, but the pressure was productive of so much pain that it could not be endured.

On the 12th, he complained of a short tickling cough, accompanied with much pain of side, and his pulse was 100, full and strong. He was bled to twenty-six ounces with much relief.

13th, He had passed a good night, and his pulse was 80, but his cough was still troublesome; belly freely opened. In the evening there was an increase of the pain of side; his pulse had risen to 100, and was full; twenty-four leeches were applied to the affected side.

14th, Had slept well; pain in the side almost gone, pulse 84, and soft; belly freely opened. In the evening pain of side had rather increased, and the pulse was full and strong. Venesection was again recommended, but he would not submit. Ten drops of the tincture of digitalis were ordered to be given every four hours.

15th, The pain of side still continued; his cough was troublesome; pulse 84, and full. The digitalis was ordered to be continued. Six ounces of blood were taken from his arm; and he had five grains of calomel.

16th, Pain of chest was almost gone; cough less troublesome; pulse 96, full and strong.

On the 17th, the pain of side was felt only on taking a full inspiration, or on coughing; and his pulse was 84. The surface

of the tumor was observed to be inflamed, the integuments were very thin, and a distinct fluctuation could be felt over the sear of the wound. I therefore, after consulting with my colleagues, applied a tourniquet to the upper part of the arm, and made an incision through the integuments covering the aneurismal sac, three inches in length, when a wound was perceived in the fascia, closed up with coagulated blood. Into this I introduced a director, and, with a probe-pointed bistoury, divided the fascia upwards and downwards the whole length of the tumor. I removed a large coagulum with my fingers, and cleared out the sac with warm water and sponge, when the brachial artery was distinctly seen at the bottom of the wound, having an opening in it half an inch in length. By bending the fore-arm two ligatures were easily passed from the inside, by means of a blunt aneurismal needle, one above and one below the wound in the artery. After tying the upper ligature, the tourniquet was loosened, when the blood flowed freely from the lower part of the wound in the artery; the lower ligature was then tied, the edges of the wound were brought together by means of adhesive straps; a compress and roller was applied; and, upon laying the fingers on the radial artery at the wrist, pulsation was distinctly felt. In the evening, the heat of both hands was 94°; he had some cough, and complained of pain of side; pulse 84, very full and bounding. Venesection was ordered.

18th, Only six ounces of blood were drawn last night, but twenty leeches were afterwards applied to the chest; pain of side entirely gone; heat of both hands 97°; pulsation distinct at the wrist; pulse 80, very full and bounding. Two dejections since the operation.

19th, Pain of the chest was so entirely gone, as not to be felt on the fullest inspiration; heat of both hands 96°. Aneurismal arm felt numb; pulse 84. Early in the evening, he complained of pain in the lower part of the belly, which was much increased on pressure; his pulse was full and strong. Twenty leeches were applied to the belly, and two colocynth pills were ordered to be taken every three hours till the bowels were freely moved. At 10 p. m. the pain continued unabated; thirty more

leeches were therefore applied, and a purging enema administered.

On the morning of the 20th, it was found that the bowels had been moved three times during the night; the pain of abdomen was diminished, although still felt on pressure and on coughing. Fifteen leeches were therefore applied to the belly; they were repeated during the day to the number of twenty; and an ounce of castor oil was administered. In the evening the pain had shifted, and was now situated over the symphysis pubis; pulse 90, full and bounding. A blister was applied to the pained part.

On the 21st, about nine in the morning, a considerable hemorrhage was observed from the wound. A tourniquet was immediately applied to the arm, and my presence was requested. With the assistance of my friend Dr Ballingall, I enlarged the wound upwards, and exposed the artery, when an opening was observed in it immediately above the upper ligature. Another ligature was passed round the artery, about an inch above the opening, when the hemorrhage immediately ceased; the wound was filled with lint, and its edges supported by means of adhesive plaster, compress, and roller. It was calculated that the patient had lost about twenty ounces of blood by the hemorrhage. During the day he complained of coldness of the hands, but of very little pain of abdomen. The pulsation of the radial artery in the aneurismal limb was quite distinct; and, in the evening, his pulse was full and bounding.

On the 22d, he still complained of pain in the lower part of the abdomen, more severe on coughing, or on pressure. His pulse was 100, full and bounding. Fifteen drops of the tincture of digitalis were ordered to be taken every three hours.

23d, He had passed a bad night, with frequent starting; his arm gave no uneasiness, but he still complained of a little pain in the abdomen, when pressed on. Complained much of nausea, but unattended by vomiting. Tongue foul; he had five dejections since last report; pulse 90, full and bounding. The middle ligature, which was originally the upper one, came away this day; the wound did not look well.

On the 24th he complained much of nausea, as well as of some pain of his chest and abdomen on coughing; the wound looked better; pulse 96, and softer. There was no motion of the bowels; he had, therefore, in the evening ʒij of the compound powder of jalap.

On the 25th had slept little; there was more pain about the chest, attended with some bloody expectoration, and the pain of the abdomen was still felt on coughing. There was constant nausea, with a little vomiting. Had two copious dejections; pulse 96, full and strong. The lower ligature came away this day, and the wound looked well. The digitalis was omitted. Ten ounces of blood were ordered to be taken from the arm, and twenty leeches to be applied to the side.

26th, Only six ounces of blood had been abstracted by the lancet; there was less pain in the chest, but still some bloody expectoration; pulse 64, and slightly intermitting; much nausea. The upper ligature came away this day, and the wound looked well.

On the 27th, the pain of the chest, as well as that of the belly, was quite gone; pulse 68, full, and without intermission. The bloody expectoration still continued; bowels open. In the evening the pulse had risen to 90, and was full and strong, the fifteen drops of digitalis were therefore repeated every three hours.

On the 28th, he complained much of nausea, but there was no vomiting; pulse 60, and full; belly open. The digitalis was omitted. In the evening the pulse was 58, and intermitting.

30th, From this time the pain of the chest and abdomen entirely disappeared. The pulse continued for several days about 60, occasionally intermitting, when it rose to 80. The wound assumed a healthy granulating appearance; the bowels continued open, and the appetite improved. He was much inclined to sleep.

On the 8th day of May, he said "He felt as well as ever he did."

On the 22d, the wound was completely cicatrized; and, on the 1st of June he was dismissed from the Hospital.

Remarks.—This case is most instructive, and claims the regard of the physician as well as the surgeon. The points most worthy of observation seem to be the following: 1*st*, Brachial aneurism, or that species of the disease which is produced by a wound, being the most proper for compression, I first tried this method of cure. The pressure was made upon the tumor by means of a cushion and screw; and applied so as not to compress the arm in its whole circle; but the pain and inflammation which it excited was so great, as to oblige me to remove the pressure at the end of two days. 2*d*, The time at which the operation was performed was most unfavourable, as he then laboured under an inflammatory diathesis; but we were compelled to operate, in consequence of the integuments covering the aneurism having become very thin, of the scar having assumed a pointed form, and of a distinct fluctuation perceptible at this point. Accordingly, when the skin was divided, it was found that the wound in the fascia had not healed, but was closed by a coagulum; and this with the cuticle, formed the only barriers against hemorrhage. 3*d*, The tying of the brachial artery above the tumor, is no doubt, in general, the preferable operation, because this aneurism is seldom of great magnitude, and the wound in the fascia commonly heals along with the integuments, forming a strong resistance to the increase of the tumor; but, in the present case, the wound in the fascia remained open, leaving nothing to restrain the blood but the thin cuticle, which was threatening to give way: tying the artery, therefore, above the tumor, would have been no security against hemorrhage. 4*th*, The aneurism was the consequence of venesection performed for the cure of inflammation in the chest. The patient was a strong young man, and the inflammatory diathesis was very marked. All the arteries of his body throbbed violently, and the beating of many of them was perceptible even to the eye. The inflammation was with difficulty subdued, and this was effected, not so much by the direct abstraction of blood, as by overpowering the vascular action, through the medium of the nerves, by means of digitalis. In inflammatory affections of the chest and abdomen, blood may be abstracted till the patient fairly sinks under the use of the lancet, and yet the inflamma-

tion not be subdued; narcotics will be found, therefore, to be powerful auxiliaries in overcoming vascular action, by lessening the nervous influence. *5th*, The secondary hemorrhage occurred the fifth day after the operation, and evidently was not the result of ulceration of the artery, but was produced mechanically, by the impulse of the blood upon the ligature; and most likely, at this time, would have followed the application of a ligature to any of the larger arteries. It is worthy of remark, that, in this case, all the ligatures came early away.

CASE III.

POPLITEAL ANEURISM.

Adam Todd, a cotton weaver, aged 34, was admitted into the Royal Infirmary on the 6th of April 1825. In the lower part of the ham of the right leg there was situated a large, hard, pulsating tumor. The tumor was about the size of a goose's egg, and had a thrilling feel. The pulsations corresponded with the beat of the radial artery, and were so strong as to move the limb. The disease was accompanied with considerable pain, extending in every direction; and the leg especially, when he worked, swelled to a great size, pitting on pressure. He had no sense of numbness in the toes, and his general health was good. The tumor first commenced about two years before, without any apparent cause, except that he had been standing much for two or three days, with his limb always on the stretch. He reported, that, on the first appearance of the tumor, it was only of the size of a nut,—that the pulsations were much stronger in it than at the time he came into the hospital,—and that it gradually became larger, the beating in it decreasing in proportion to its increase in size.

On the 9th of April, I tied the femoral artery at the same place, and in the same manner, as in Pringle's case. After the ligature was tied, a small vessel, coming off from the fore part of the artery, was seen to ooze out blood; it was about the

size of a surgeon's small probe, and had been cut in opening the sheath. Another ligature was therefore passed round the femoral artery, half an inch farther down, so as to include this vessel betwixt the two ligatures: The edges of the wound were brought together, and secured by means of adhesive plaster and bandage. After the patient was put to bed, he had a shivering fit; bottles of warm water were applied to the feet, the aneurismal limb was wrapt in flannel, and a draught containing 35 drops of laudanum was exhibited, which soon restored the natural warmth.

At eight o'clock in the evening the patient was free from pain. The heat of the sound limb was 98°, and that of the aneurismal limb 100°; pulse 80, and of natural strength.

On the 10th, he complained of pain in the wound, from which there had been a considerable oozing of blood, and of numbness in the affected limb; pulse 88, and of good strength; heat of the sound limb 90°, that of the aneurismal limb 92°; no pulsation in the tumor. As there had been no motion in his bowels from the time of the operation, three colocynth pills were prescribed. At eight o'clock in the evening he complained much of headach; pulse 100, full and strong; tongue foul, with much nausea, and thirst; the heat of the sound limb 96°, and that of the aneurismal 97°. As he had vomited the pills, an enema was administered, which produced a copious evacuation. Eighteen ounces of blood were taken from his arm, with some relief; but, as the headach continued, and the pulse became fuller and stronger, ten ounces more were abstracted at twelve o'clock at night, and a colocynth pill was ordered to be taken every three hours till the bowels were freely moved.

On the 11th he had slept very little, and complained much of headach, with nausea and vomiting; there was great tenderness in the thigh above the wound, and in the groin, with much general uneasiness. This morning there were two evacuations, of a dark colour, from the bowels; tongue cleaner; pulse 84, and weaker, heat of the sound limb 94°, that of the aneurismal 96°. The wound was dressed this day, its edges had not adhered, and there was a little discharge. A brisk purge of calomel and jalap was prescribed. At eight o'clock in the evening the nau-

sea, with tendency to vomiting, still continued; pulse was 100, full and strong, and there was no evacuation from the bowels. Sixteen ounces of blood were ordered to be taken from the arm, and a cathartic glyster to be immediately administered.

On the 12th his headach was much diminished, but the nausea and vomiting continued; there was great tenderness above the wound on pressure, with slight redness of the skin; but no redness of the lower part of the thigh or leg, and no pulsation in the tumor; pulse 114, and strong; four dejections of a dark colour, during the night; heat of the aneurismal limb 88°, that of the sound 94°; wound looked well, and the discharge was in small quantity.

On the 13th the irritability of his stomach was so great, that it rejected every thing the moment he swallowed it; there was still a little tenderness above the wound, but no redness of the surface; pulse 96; heat of the aneurismal limb 78°, and of the sound 81°; there was a copious discharge from the wound, the surface of which looked well; he was ordered the saline mixture in a state of effervescence.

On the 14th he had passed a tolerable night; his headach was almost gone, there was still tenderness above the wound, with much discharge; and the nausea had almost disappeared. The tumor in the ham was nearly half its former size, and without the least pulsation; pulse 96, and soft.

On the 16th the nausea was entirely gone; there was still some tenderness above the wound, which looked well, although the discharge was rather profuse; heat of both limbs the same, pulse 88, belly open.

From this time he rapidly recovered, the tumor in the ham quickly diminished in size. On the 22d the upper ligature came away, and the lower one on the 27th.

On the 14th of May the wound was nearly cicatrized; and he was discharged from the Hospital on the 19th, when the tumor was much diminished in size, and without pain or pulsation. At this time no pulsation could be felt in the anterior and posterior tibial arteries.

Remarks.—The chief circumstances worthy of remark in this

case are the duration of the aneurism, and the application of the two ligatures. The aneurism had existed for two years, and in such a case there is danger of the tumor having produced caries of the bone, and irretrievable injury to the knee-joint.—Two ligatures should always be applied, when the surgeon finds that he has inadvertently, or by mismanagement, insulated the artery to any extent; and the necessity of the measure is also called for, when any arterial branch is divided in opening the sheath, and when it is distinctly seen giving out blood.

CASE IV.

POPLITEAL ANEURISM,

James Ferguson, aged 30, a sailor, was admitted into the Royal Infirmary of Edinburgh, on the 23d of August 1825. There was situate in the left ham an elastic circumscribed tumor, which was so large as not only to fill up, but to project beyond the space defined by the hamstrings, and which afforded to the touch a distinct thrilling sensation. The integuments above the tumor were tense, but not red or painful. The pulsation of the femoral artery was strong, but that of the anterior and posterior tibial arteries indistinct. The motions of the knee-joint were much impaired, and he kept his leg continually in a semi-bent position. He experienced, at times, in the leg, severe shooting pains, and there was occasional œdema and a tingling sensation in the foot. Some of the lymphatic glands under the jaw were enlarged; but his general health was, in every respect, good.

Ferguson reported, that he had just returned from North America, where the affection of his limb commenced on the 1st of July, about eight weeks before his admission into the Hospital. The swelling and pain of the limb were the first symptoms observed. After ten days' continuance they abated, and he then perceived a tumor in the ham, which pulsated very strongly,

and was nearly as large as when he came under my care; but the beating had gradually become less. He was not aware of any cause which he could assign as the origin of his disease.

On the 26th of August, three days after Ferguson's admission into the hospital, I placed a ligature on the femoral artery. After having gently bent the limb, and raised the knee, so as to define the sartorius muscle, I commenced an incision about an inch above the middle of the thigh, carrying it in an oblique direction upwards, to the extent of three inches in the course of the inner edge of the muscle. This incision passed through the integuments and fascia lata, and exposed the sartorius; and, when the finger was drawn along, under its inner edge, the artery was felt beating. The muscle was held aside by my colleague Dr Hunter; the cellular substance was dissected; and the sheath opened to the extent of one-fourth of an inch. This was done about the centre of the external incision, where the artery begins to be covered by the muscle. A ligature, consisting of three threads, was now easily passed, by means of the blunt aneurismal needle, from the inner side, and tied by pulling with a moderate degree of firmness; upon which the tension and pulsation of the tumor immediately ceased; but the patient did not complain of coldness or numbness of the limb till an hour after. There was no bleeding of any consequence; and he bore the operation without complaint. The edges of the wound were brought together, and retained by means of adhesive plaster, and the uniting bandage; compresses were placed on the tumor in the ham, and a flannel roller applied from the toes upwards to the top of the thigh. The operation was performed at twelve o'clock; and, at one, he complained much of pain in the wound and in the foot, which was a little colder than the other. He was, in other respects, well.

At eight o'clock in the evening, the heat of the sound limb was $95\frac{1}{2}°$, while that of the aneurismal one was 91°. He felt little pain, but complained of some numbness and a tingling sensation in the leg and foot. A bottle of hot water was applied to the foot, and he was ordered an anodyne draught, if necessary.

At seven o'clock on the morning of the 27th, it was reported that he had taken the draught, and had slept well; that he did not complain of any pain, and had less numbness and tingling sensation in the foot and toes; that no pulsation could be felt in the tumour, nor in the anterior or posterior tibial arteries; that his pulse was natural; and that the heat of the sound limb was 94°, while that of the aneurismal one was 88½°. At twelve o'clock he remained free from pain in the limb; his pulse was 96, full and strong; he complained of pain of loins, but he had no headach or thirst; tongue clean; no dejection; the heat of both limbs 92°. A cathartic enema was ordered to be immediately given. At eight o'clock in the evening he complained much of pain in the leg; but there was neither swelling nor redness round the wound; pulse 80, full and strong; heat of the sound limb 95°; that of the aneurismal one 93°.

On the 28th, it was found that he had slept indifferently during the night; that he complained of an increase of pain in his leg, but of none in the wound; pulse 100, and soft; no headach, or pain of loins; no thirst, skin cool and moist; one dejection, and the heat of both limbs 90½°. An ounce of castor-oil was ordered to be given immediately.

29th. Three dejections had been procured by the medicine, and he had slept well without a draught; pulse 90, and of natural strength; tongue clean; no thirst, and the temperature of both limbs was 91°. This day the wound was dressed, the edges of which were found to have adhered, and there was no inflammation or tumefaction. In the evening, he complained of pain in the affected limb, and his pulse was 106, full and bounding, attended with heat of surface; no dejection. Fourteen ounces of blood were immediately taken from the arm, and two aloëtic pills were ordered to be given in the morning.

30th. He had slept well, and experienced no pain; his pulse was 104, but less full and bounding than on the preceding day; skin moist; tongue clean; no dejection. A cathartic enema was ordered to be administered in the evening.

From this time till the 4th of September, there was little febrile action; and the only thing worthy of remark was, that the temperature of the aneurismal limb continued generally about

two degrees below that of the sound one. On that day, however, he felt considerable pain extending up the leg towards the wound, with some starting; pulse 100, and sharp; belly costive. The wound was observed to be surrounded by a blush of inflammation, but the adhesion of its edges was perfect; he complained of pain in the groin, and the inguinal glands were observed to be enlarged; cloths dipped in a saturnine solution were ordered to be applied to the groin and wound; fourteen ounces of blood to be taken from the arm, and two drachms of the compound powder of jalap to be given immediately.

September 5th. The blood which was abstracted on the preceding day was very sizy; there was less redness round the wound, and the inguinal glands were not so painful on pressure; pulse 100, full, and rather strong; his bowels had been moved by the medicine; the aneurismal tumour was now much reduced in size. The saturnine solution was ordered to be continued, the cathartic powder to be repeated, and a saline mixture with antimonial wine, to be occasionally given.

On the 6th, the upper part of the thigh was observed to be involved in erysipelas, which gradually extended over the whole haunch and thigh, and did not disappear till the 13th. During the continuance of the erysipelas there was much constitutional irritation. The treatment consisted chiefly in keeping the bowels open by means of the infusion of senna, with a little calomel occasionally.

Ferguson now began to complain of pain about the knee-joint, which was severe on pressure. The pain was attended with a burning heat, stretching down the calf of the leg, and there was some swelling, but no redness.

On the 18th, the ligature came away; the discharge of pus continued trifling for a few days, when the wound cicatrized, but the pain in the knee continued to increase.

On the 20th there was considerable fever, and it was reported that, during the night, there had been much aberration of mind. He now expressed a wish to return to his father's house, in Leith. As there was good accommodation there, his wish was complied with; and I committed him to the care of my friend Mr Charles Cheyne, who paid him every attention,

and with whom I occasionally visited him. At the time Ferguson left the hospital, the aneurismal tumour was about the size of a duck's egg.

The pain of the knee continued to increase, attended with swelling and great heat; the febrile action was high, the pulse being never below 120. Fomentations and poultices were applied to the knee, and the constitutional treatment consisted in the exhibition of diaphoretic and laxative medicines.

On the 27th of September the aneurismal tumour felt very soft, and there was a distinct sense of fluctuation round the knee-joint. I made two small incisions where the fluctuation was most distinct, and the swelling most prominent, viz. one a little above the patella, and the other about two inches below the knee on its inner side. From the upper opening six or seven ounces of bloody matter were discharged, but from the lower one not above an ounce issued. Into each opening a piece of oiled lint was inserted, and the poultices were continued. On the two following days, upon the removal of the lint, several ounces of pus were discharged; the discharge was increased when the tumour in the ham was pressed on. The joint was not only surrounded with pus, but matter seemed to be contained within the capsule, and the irritative fever continued great. Under these circumstances, it was judged advisable to remove the limb. On the 30th I performed the operation. I removed the limb about three inches below the place where the ligature was put round the femoral artery; eight vessels were secured, the flaps were brought together, and the stump dressed in the usual manner.

It is worthy of remark, that after the limb was removed, the femoral artery was observed open; a ligature was therefore applied; but, when the tourniquet was taken off, no pulsation could be perceived at the ligature.

For three days after the operation Ferguson had less fever, and felt better; but after this time the bowels became loose, the stump looked ill, he perspired profusely during the night, the diarrhœa could with difficulty be repressed, the constitutional irritation was great, and he died on the 27th of October, eight days after the removal of the limb.

Remarks.—The remarks suggested by Ferguson's case, may be referred, 1st, to the operation and its effects; 2dly, to the state of the limb after its removal; and, 3dly, to the condition of the artery in the stump.

1st, With regard to the operation and its effects, it may be observed, that the ligature was placed on the artery about two inches and a half above the middle of the thigh, which was at a higher point than in the operations on either Pringle or Tod. The artery at this place is more superficial, consequently less dissection is required to expose it, while it is sufficiently remote from the origin of the profunda to insure the success of the operation. In reading the case, it will be perceived that the ligature did not come away till the 24th day, which is much later than in the generality of operations for aneurism. When a ligature is placed on an artery, the time at which the ligature will be discharged, must depend in a great measure on the state of the constitution, but its late separation in the present case is partly to be attributed to the ligature not being drawn very tight on the artery.

Although this patient ultimately died, yet the cessation of the pulsation in the tumour, the closure of the artery, the separation of the ligature without hemorrhage, and the healing of the wound, shew that the operation was successful, as far as related to its object, the cure of the aneurism.

2d, With respect to the limb, after it was removed, the aneurismal tumour, the knee-joint, and the parts in its immediate vicinity, were examined. The popliteal vein and nerve were seen running over the external or posterior part of the tumour, the vein was found to be obliterated, and immediately before it came in contact with the lower part of the tumour, it was filled with a clot of blood. The tumour lay fairly in the hollow behind the condyles of the os femoris, and the form of the popliteal artery was distinctly seen running along its outer surface. Upon opening the tumour, it was found filled with loose coagulated blood, and the artery was seen entering its upper and passing out at its lower part. The points at which the artery entered and passed out, were situate towards the outer side of the sac, and were about two inches apart; both of the openings within

it had smooth, rounded edges; the upper one was of the size of a goose-quill, which was the diameter of the artery up to the place of amputation; and the lower one that of a crow-quill, which was also the size of the corresponding portion of the vessel, down to the origin of the anterior tibial artery. I may remark, that no laceration of the internal coats of the artery could be perceived, but it looked as if all the coats on the side next the knee-joint had been dilated. Upon farther examination, three distinct abscesses were discovered, all of which were deep-seated, and communicated with each other. The largest abscess was situated betwixt the aneurismal sac and the inner hamstrings, and was bounded before by the bone and capsule of the knee-joint. Betwixt it and the aneurismal tumour there were two openings, each of which would admit the point of the little finger. These openings were at the inner side of the sac about its middle, the one a little anterior to the other; and coagulated blood was seen projecting from one of them into the cyst of the abscess. This abscess also communicated with the joint at its inner side, close by the insertion of the semimembranosus. Another abscess, about half the size of this, occupied the situation of the popliteus muscle, which, with the exception of its tendon, in connection with the external condyle in the thigh-bone, was entirely absorbed. This abscess lay between the heads of the tibia and fibula and the gastrocnemius externus, covered by the aponeurosis of the leg. It opened into the joint at its outer side and betwixt the tendons of the semimembranosus and the inner head of the gastrocnemius externus, into the one we have already described. The situation of the third abscess was on the fore-part of the femur, immediately above the joint, and exterior to the capsule, and it communicated laterally with both the other abscesses; so that the knee-joint was completely surrounded with pus, except at the part corresponding to the patella, the anterior part of the heads of the tibia and fibula, and the site of the aneurismal tumour. Independently of this circumstance, matter was contained in the cavity of the joint.

3d, The remaining point of investigation related to the condition of the artery in the stump. When the vessel was re-

moved from the thigh, it was ascertained that it had been tied exactly three inches below the origin of the profunda. At that point where the ligature had been applied, it looked as if divided transversely with a knife. The sheath of the artery, and the cellular substance immediately in contact with it, was much thickened to the extent of an inch and a half above the ligature; and this was also the condition of these parts all below the ligature to the face of the stump, including a space of two inches. From an inch above the ligature to the face of the stump, the cavity of the artery was not obliterated, but much contracted, and filled with a clot.

The dissection of this case shews, that the matter was not originally formed in the knee-joint, and that the death of the patient was not to be imputed to the suppuration of the sac, but to distinct abscesses, which, by inducing ulcerative absorption, had formed a communication both with the joint and the aneurismal sac.

CASE V.

FEMORAL ANEURISM.

Margaret Robertson, aged 40, was received into the Royal Infirmary on the 31st October 1825. A large firm tumour occupied the inner and fore part of the right thigh, extending from an inch below Poupart's ligament, to within three inches of the knee-joint. It was situated in the course of the femoral artery, but had no perceptible pulsation. Its surface was inflamed, particularly at the lower part, where the integuments appeared thin, and formed a projecting point. The swelling was rather diffuse than circumscribed, its upper edge being the only part of it which was well defined. The pulsation of the femoral artery above the tumour was very distinct; that of the posterior tibial artery was just perceptible; but no pulsation could be perceived in the anterior tibial artery. The leg and foot were not swelled, nor edematous, and she did not complain of any pain, but only of a numbness, and tingling sensation in the leg. General health good.

The patient said, that, about twenty-five days previous to her eoming into the Hospital, while going down a stair, she twisted her leg, and that eight days thereafter a small tumour, of the size of a pigeon's egg, appeared about the middle of the thigh. At this time she experieneed mueh pain in the inside of the thigh, and perceived a violent pulsation in the swelling. The tumour rapidly inereased in size, the numbness and tingling sensation beeoming greater, and the pulsation less distinct. in proportion to the augmentation of its bulk. It may be proper to state, that, although there was no pulsation in the tumour at the time this patient was reeeived into the Hospital, having been seen by my eolleague Dr Hunter and several other surgeons a few days previous to her admission, the tumour was then found by them to be of the size of an orange, to have a strong pulsation, and to be situated a little above the middle of the thigh in the course of the femoral artery. I ordered a purging clyster to be immediately administered, cloths wet with cold water to be kept eonstantly applied to the tumour, and the patient to be eonfined to bed. I requested a consultation to be called next day at half-past eleven o'elock A. M.

1st November.—The consultation being of opinion that the tumour was an aneurism of the femoral artery, and requiring operation without delay, I immediately proeeeded to tie the external iliac artery.

I eommeneed an incision as high as the anterior superior spinous process of the ilium, but an ineh nearer to the linea alba, and continued it down in a semieircular form, erossing the course of the artery, and terminating immediately above the external abdominal ring. This ineision was about three inches in length, and the external epigastrie artery being divided, was secured by ligature. After I had exposed the tendon of the external oblique muscle, I made a small opening into it at the lower angle of the wound. Into this opening I inserted a director, and slit the tendon up the whole length of the external incision. With my finger I then brought into view the lower borders of the internal oblique and transversalis muscles, intreducing it under them at the point where they depart from Poupart's ligament, and divided them upwards to the extent of half

an inch. The peritoneum was now easily separated by the finger from its connections, and pushed upwards, in which situation it was held by my colleague Dr Ballingall, when I felt the artery beating strongly at the bottom of the wound. Still using the finger, I separated the cellular substance, so as to expose the artery about an inch and a half above Poupart's ligament. By means of a few scratches with the scalpel, on the anterior part of the artery, I opened the sheath, and bending the thigh upwards, passed with the greatest ease, from within outwards, by means of the common aneurism needle, a ligature, consisting of three threads. When the ligature was tied, the pulsation of the femoral artery, immediately above the tumour, instantly ceased; the edges of the wound were brought together, and kept in contact by means of three stitches of the interrupted suture, and adhesive plaster; a compress and T bandage were applied, and a flannel roller put round the whole limb. On the patient being put to bed, the foot of the affected limb was found to be considerably colder than the other, and therefore bottles of hot water were employed.

Seven o'clock in the evening.—The patient said that she had felt no pain since the operation, and expressed herself comfortable and easy. A considerable quantity of serum had oozed out from the wound; pulse 78, of natural strength; heat of the aneurismal limb 97°, of the sound one 98¼°. A draught was ordered, containing forty drops of laudanum, and twenty-five of antimonial wine.

2d November, 7 A. M.—It was reported that she had slept a good deal during the night. She complained of some pain in the neighbourhood of the wound, but of no tenderness of the abdomen, and had no nausea or vomiting; discharge of serum much diminished; pulse 76, of natural strength; no dejection; little thirst; heat of both limbs 98°.

At the hour of visit (12 o'clock) she complained of constant dull pain in the wound, and occasionally in the abdomen; the serous discharge appeared to have ceased; pulse 116, of natural strength; and there was considerable heat of skin. She had some headach, and complained of much numbness in the affected limb. The size of the aneurismal tumour was a little

diminished, and the redness of its surface had now disappeared; heat of both limbs at the toes 98°. A cathartick clyster was ordered to be administered immediately. Half an ounce of the common saline mixture, with ten drops of antimonial wine, to be taken every two hours, and the artificial heat to be discontinued. At seven in the evening she complained of much pain in the wound, but of none in the abdomen; pulse 108, of natural strength; skin warm and moist; one copious dejection had been procured from the enema; heat of aneurismal limb 94°, of sound 96°. The sudorific draught was ordered to be continued.

3d November.—She had slept well after taking the draught; the pain in the wound still continued, but no tenderness in the abdomen; pulse 116; skin of natural temperature, and moist; tongue clean; no dejection; heat of aneurismal limb 92°, of sound 93°. The size of the tumour was considerably reduced, and its form now quite circumscribed. The wound was dressed this day. The lips had not adhered; there was no inflammation, tumefaction, or pain on pressure; and the discharge was in small quantity. A cathartick clyster was ordered to be given immediately. In the evening the pulse was 110; the heat of the aneurismal limb 94°, of the sound 97°; the injection had procured one copious stool. The sudorific draught was ordered to be continued.

4th November.—Passed a tolerable night. Complained of pain in the wound, and was much annoyed with tickling cough. The tumour was beginning to become flaccid; pulse 100, and of natural strength; heat of aneurismal limb 91°, of sound 92°; the wound had the same appearance as on the preceding day. A mucilaginous mixture was ordered for the cough, and a colocynth pill every four hours till the bowels were freely opened. It was found in the evening that the belly had not been moved. A clyster was therefore ordered to be given immediately.

5th November.—This day she complained much of nausea; had frequent hiccup, and occasional vomiting. The abdomen was somewhat distended and tympanitick, but not painful on pressure; and she experienced scarcely any pain in the wound. Had three dejections; pulse 100, and small; tongue rather foul. The size of the aneurismal tumour was very much re-

duced. The saline diaphoretick mixture was desired to be omitted, and a powder, containing two scruples of calcined magnesia, ten grains of the powder of rhubarb, and five grains of ginger, in an ounce of peppermint water, to be taken every hour.

At eight o'clock in the evening, I observed slight aberration of mind, and understood that the nausea and vomiting had occasionally recurred, but were not so frequent as in the morning. The abdomen was still tympanitick, but rather less swelled, and there was no pain on pressure; her countenance was anxious, and her speech hurried; pulse 100, rather small; skin natural; tongue foul, but moist; no dejection. A purgative enema was ordered to be given immediately, and to be repeated every hour till the bowels were fully cleared. A pill, containing three grains of the extract of hyoscyamus, was also directed to be taken; the powder of magnesia and rhubarb to be continued; in the event of the pulse continuing feeble, or sinking, a little wine to be occasionally administered.

6th November.—When visited at three A. M. it was found that she had not slept any, and that the aberration of mind had increased. She did not complain of any pain; pulse 125, and scarcely perceptible at the wrist; countenance extremely depressed; respiration hurried; three scanty dejections; an ounce of port-wine was given, and a little of it, with warm water and sugar, was desired to be often repeated. She gradually sunk till seven o'clock, when she died.

Dissection.—The body was examined fifty-two hours after death. On opening the abdomen, no inflammation or redness appeared in the peritoneum, or in the intestines; indeed they were whiter, and had fewer red vessels, than is generally found in a state of health. No disease existed in the mucous membrane of the intestinal canal; the liver was larger than usual, but did not seem to have undergone any morbid change: all the other abdominal viscera had a healthy appearance. There appeared to have been no action in the wound; its edges had no tendency to adhere; the peritoneum had not regained adhesion to those parts from which it was separated in the opera-

tion ; there was no suppurating or granulating surface, nor was there any appearance of gangrene. The ligature was seen closely surrounding the artery, in which there was no ulceration, and had been placed three-fourths of an inch above the epigastric, half an inch above the circumflex iliac, and immediately above an artery nearly of the same size, and taking the same course.

The artery was filled, for two inches above the ligature, with a firm coagulum, the lower part of which adhered to the sides of the vessel, but it contained no clot below the ligature. In tracing the artery down the thigh, the profunda was observed coming off one inch and three-fourths under Poupart's ligament. About two inches below the origin of the profunda, the femoral artery began to dilate, and was seen to form a tumour at its inner side, of the size of a large apricot, and resting upon the belly of the adductor longus, to which it firmly adhered. This tumour was in close contact with a large aneurismal sack, formed by the bursting of the artery, and seemed to be connected with it, in the same manner as the auricle is connected with the heart. This sack, upon being opened, was found to contain about eight ounces of coagulated blood, and after this was cleared out, a communication of an oval form was perceived betwixt it and the smaller sack in the artery. The opening betwixt them was of such a size as would have permitted a large nutmeg to have passed. The artery was seen entering into, and passing out of, the smaller sack, with mouths, at the distance of an inch and one-fourth from each other. This smaller sack was also filled with coagula, and the clots, which were very firm, extended into the artery, to the distance of an inch above the tumour, leaving that portion of the vessel which was betwixt this point and the origin of the profunda, the space of an inch, empty, and of its natural size. The artery below the tumour was diminished in size, and contained coagulated blood ; and this was the state of the vessel, both with regard to size, and to its containing coagulated blood, even in the popliteal artery. The larger aneurismal tumour seemed to be formed by the cellular substance and muscles ; the sartorius was stretched over its anterior and lateral parts, and here this muscle was greatly in-

creased in breadth, very thin, and adhered closely to the sack; the posterior part was formed chiefly by the vastus internus; and the inner part by the dilated artery, in conjunction with the sartorius. The belly of the vastus internus connected with the aneurismal sack, was much absorbed, and the rectus muscle was pushed over towards the outer side of the thigh; but its substance was entire, and it lay in contact with that part of the sack which was formed by the sartorius and the condensed cellular substance. The sheath of the femoral artery, for an inch above the tumour, and for some little space below it, was greatly thickened.

All the principal veins of the thigh were much changed in their appearance. The superficial femoral vein, from the point at which the saphena enters it, to the knee, felt hard, gave considerable resistance to the knife, and was as thick in its coats as the common iliac artery. Where this vein lay behind the tumour, its sides, although in contact, were not adhering; and from the point at which the deep femoral vein entered it, to the ham, it contained solid coagula, which adhered to the vessel. The deep femoral vein was equally thickened in its coats as the superficial, though pervious; but the saphena major, although greatly thickened, was not so much diseased as either of the femoral veins.

Remarks.—One of the most remarkable features in this case was the rapid growth of the aneurism. The tumour of the artery appears to have burst early; and, after the blood escaped into the cellular substance, increased so rapidly in size, that, when the patient came under my care, twenty-five days from the date of the accident, and about seventeen from the time she first observed the aneurism, there was neither pulsation nor retrocession of the blood when pressed on, two of the most decided characteristics of aneurism.

The tumour approached so close to Poupart's ligament, that if I had attempted to tie the artery at the top of the thigh, there would have been a risk of opening the sack; and if the wound had inflamed, the inflammation might have extended to it, and terminated in suppuration or gangrene; but even if

there had been sufficient room to tie the artery betwixt the tumour and Poupart's ligament, I do not think it would have been advisable. I conceive, that, in every case where the aneurism is situated high in the thigh, the preferable practice is to place the ligature on the external iliac. The artery at the top of the thigh is covered by a strong fascia, and a mass of glands, which are frequently enlarged, and their connecting cellular substance so thickened, as to render the operation less simple; besides, there is no artery in the body more irregular in its origin than the profunda; sometimes it comes off two inches below Poupart's ligament, at other times one inch, and, on some occasions, as soon as the inguinal artery emerges from the abdomen, it divides into two branches. Independently of this irregularity in the origin of the profunda, the epigastric sometimes springs from the femoral artery instead of the external iliac. The attempt, therefore, to secure the femoral artery at the top of the thigh, might, in some cases, defeat the object of the operation, by giving rise to secondary hemorrhage, upon the separation of the ligature; whereas the external iliac artery is easily accessible to any one acquainted with the anatomy, and when the ligature is placed at some distance above the epigastric, it will be beyond every branch which can disturb the formation of a clot, and the closure of the artery.

The dissection of this case points out very forcibly the danger of cutting at the sides of the artery, or of using a sharp pointed or sharp edged needle in passing the ligature. If I had opened the sheath, by cutting at the sides of the artery, instead of doing so by scratching with the knife on its anterior part, I undoubtedly would have wounded the branch which came off about half an inch above the circumflex iliac, and which was of the size of a crow quill. I need not say that such an occurrence might have caused embarrassment in the operation, as well as led to misconception on the part of the spectators.

Margaret Robertson lived only six days after the operation; yet in this short space of time the size of the aneurismal tumour was reduced two-thirds. Now, as the heat and circulation in the limb were perfect, as the tumour was rapidly declining in size, and as there was little constitutional irritation, at least till

the day preceding her decease, circumstances taken in conjunction with the fact of her not having lost above half an ounce of blood during the operation, which lasted twelve minutes, it may naturally be asked to what cause was her death to be imputed? The dissection gave no direct intimation on this head. I can only state, as a probable solution of the difficulty, that this unfortunate woman had led a very irregular life, as one of her female associates informed me she had been much addicted to drinking, and I perhaps, therefore, erred in depriving her of that stimulus to which she had been long accustomed. I am certainly inclined to believe, that it might have been advantageous to have allowed her a certain proportion of wine, or even spirits. On many occasions the surgeon, as well as the physician, will find it a good rule in practice, to be in a great measure influenced by the former habits of his patient.